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Research in National Parks

Research – Resource Management Partnerships

The Great Lakes Science Center (GLSC) works in partnership with resource management agencies, including the National Park Service (NPS) by providing unbiased scientific information on Great Lakes biotic and habitat resources and determining the effectiveness of resource managenent and ecological restoration efforts. The GLSC provides the National Park Service (NPS) scientific information pertinent to natural resource management of park areas of the midwest. Park-based GLSC scientists are physically located at Pictured Rocks National Lakeshore and Indiana Dunes National Lakeshore. GLSC scientists are in continual contact with park managers, working with them to develop solutions to ongoing, emerging, or previously unrecognized resource problems. Indentifying, framing and developing approaches to these solutions are important responsibilities of GLSC scientifics. Park-based GLSC scientistics work with the park managers, attending squad meetings, consultations, scientific presentations, joint conferences, and briefings. Participation by Center scientists on technical committees, working groups, workshops and symposia provides a communications link that ensures GLSC research is addressing and meeting resource management priorities of the National Park Service. GLSC park-based scientists provide information on NPS-related issues such as fire prescriptions, beach closures, eutrophications problems, contaminants, exotic species, environment assessement, and habitat restoration. In addition, collaboration between park-based scientists and GLSC staff from the Ann Arbor laboratory and other field stations allows for a more multi-disciplinary approach to resolving resource management problems in parklands. Recent collaborations include research at Cuyahoga National Recreation Area, Voyageurs National Park, and Isle Royale National Park.

Munising Field Station

A project to describe the nature and dynamics of fire regime in coastal conifer stands along the upper Great Lakes has been initiated. Preliminary results of fire scar and increment core data that span the era of European settlement suggest that native people were important sources of ignition.

Recent work on late Holocene (last 5,000 years) lake level histories suggest that levels of the Great Lakes have varied from those of the present by as much as several meters over hundreds of years. As a result of these changes, we found that periods of dune building along the Great Lakes Coasts have alternated with periods of relative quiescence. We are studying the impacts of herbivory on forest dynamics and understory species persistence. Rates of seedling recruitment in several forest types within Pictured Rocks, Sleeping Bear, and Apostle Islands National Lakeshores have been altered by high levels of white tailed deer herbivory.

Lake Michigan Ecological Station

Research consists of four programs of park orientated science in Plant Ecology, Animal Ecology, Aquatic Pollution Ecology, and Limnology.

Our principal client is the National Park Service. Projects include 1) pollution plume delineation impacting West Beach swimming areas, 2) heavy metal biogeochemical cycling in the Grand Calumet Lagoons, 3) prairie and Savanna fire ecology, 4) restoration protocols for razed homesites, and 5) breeding bird monitoring.

State and local park/natural areas also benefit from our service. Examples include service to the State of Wisconsin in their Oak Savanna/Karner Blue butterfly restoration efforts, Indiana DNR deer monitoring, Indiana Department of Environmental Management contributions to restoration strategies for the Grand Calumet Area of Concern, Indiana Dune State Park dune thistle studies, Lake Michigan LAMP efforts, and Michigan Natural Features Inventory.

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Great Lakes Science Center
1451 Green Road
Ann Arbor, Michigan 48105
(734) 994-3331
http://www.glsc.usgs.gov

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